IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended)A system comprising:

a computer; and

a first storage subsystem,

wherein the computer duplicates data and writes the data into plural storage areas of the first storage subsystem,

wherein the first storage subsystem transfers content of data update ~~into~~ of a first storage area among the plural storage areas, in which the data have been duplicated and written, to a second storage subsystem connected to the first storage subsystem before a request of the computer for the data update to the first storage area is completed, and

wherein the first storage subsystem transfers ~~the~~ content of ~~the~~ data update ~~into~~ of a second storage area among the plural storage areas, in which the data have been duplicated and written, to a third storage subsystem connected to the first storage subsystem after a request of the computer for the data update to the second storage area is completed.

2. (currently amended)A system according to claim 1, wherein, in a case where abnormality occurs in a connection between the first storage subsystem and the second storage subsystem, the first storage subsystem does not receive the request of the computer for update of the data of the first storage area and the second storage area.

3. (currently amended)A system according to claim 2, wherein the first storage subsystem receives the data from the second storage subsystem and reconstructs the data stored in the first storage area.

4. (currently amended)A system according to claim 2, wherein the first storage subsystem receives the data from the third storage subsystem and reconstructs the data stored in the first storage area.

Claim 5 (canceled).

6. (previously presented) A method of duplicating data in a system including a first site, a second site and a third site, each of the sites including a computer and a storage subsystem, said method comprising the steps of:

duplicating data in the first site to store the data in first and second storage areas;

transferring update data of the first storage area to the second site by a synchronous remote copy; and

transferring update data of the second storage area to the third site by an asynchronous remote copy,

wherein, in a case where a failure occurs in the first site, said method further comprising the steps of:

continuing processings, which have been performed by the computer included in the first site, by the computer included in the second site, and

transferring the update data of a storage area of the storage subsystem included in the second site to the third site.

7. (previously presented) A method according to claim 6, wherein, in a case where the first site is recovered, said method further comprising the steps of:

continuing the processings, which have been performed by the computer of the second site, by the computer of the first site;

transferring the data stored in the storage subsystem of the second site to the storage subsystem included in the first site; and

resuming any processings, including the step of duplicating data, the synchronous remote copy and the asynchronous remote copy, performed in the first site.

8. (previously presented) A method according to claim 6, wherein, in a case where the first site is recovered, said method further comprising the steps of:

continuing the processings, which have been performed by the computer of the second site, by the computer of the first site;

transferring the data stored in the storage subsystem of the third site to the storage subsystem included in the first site; and

resuming any processings, including the step of duplicating data, the synchronous remote copy and the asynchronous remote copy, performed in the first site.

9. (previously presented)A method of duplicating data in a system including a first site, a second site and a third site, each of the sites including a computer and a storage subsystem, said method comprising the steps of:

duplicating data in the first site to store the data in first and second storage areas;

transferring update data of the first storage area to the second site by a synchronous remote copy; and

transferring update data of the second storage area to the third site by an asynchronous remote copy,

wherein, in a case where a failure occurs in the first site, said method further comprising the steps of:

continuing any processings, which have been performed by the computer included in the first site, by the computer included in the third site,

transferring the data stored in the storage subsystem included in the second site to the third site and making contents of the data of the storage subsystems included in the second and third sites coincide with each other, and

transferring content of data update into the storage subsystem of the third site to the storage subsystem of the second site.

10. (previously presented) A method of duplicating data in a system including a first site, a second site and a third site, each of the sites including a computer and a storage subsystem, said method comprising the steps of:

duplicating data in the first site to store the data in first and second storage areas;

transferring update data of the first storage area to the second site by a synchronous remote copy; and

transferring update data of the second storage area to the third site by an asynchronous remote copy,

wherein, in a case where a failure occurs in the first site, said method further comprising the steps of:

continuing any processings, which have been performed by the computer included in the first site, by the computer included in the third site, and

transferring content of data update into the storage subsystem of the third site to the storage subsystem of the second site.

11. (previously presented) A method according to claim 10, wherein, in a case where the first site is recovered, said method further comprising the steps of:

continuing the processings, which have been performed by the computer of the third site, by the computer of the first site;

transferring the data stored in the storage subsystem of the third site to the storage subsystem included in the first site; and

resuming any processings, including the step of duplicating data, the synchronous remote copy and the asynchronous remote copy, performed in the first site.

12. (previously presented)A method according to claim 10, wherein, in a case where the first site is recovered, said method further comprising the steps of:

continuing the processings, which have been performed by the computer of the third site, by the computer of the first site;

transferring the data stored in the storage subsystem of the second site to the storage subsystem included in the first site; and

resuming the processings, including the step of duplicating data, the synchronous remote copy and the asynchronous remote copy, performed in the first site.

13. (currently amended)A computer system comprising:

a computer; and

a first storage subsystem,

wherein the computer writes a log of a database into a first storage area of the first storage subsystem, and stores data of the database into a second storage area of the first storage subsystem,

wherein the storage subsystem transfers update data ~~into~~ of the first storage area and update data ~~into~~ of the second storage area to a second storage subsystem connected to the first storage subsystem by a synchronous remote copy, and

wherein the first computer transfers the log to a second computer connected to the first computer.

14. (currently amended)A data duplication method in a system including a first site, a second site and a third site, comprising the steps of:

writing a log of a database into a first storage area of a storage subsystem of the first site by a computer included in the first site and storing data of the database into a second storage area of the storage subsystem of the first site;

transferring update data ~~into~~ of the first storage area and update data ~~into~~ of the second storage area to the second site by the storage subsystem using a synchronous remote copy; and

transferring the log to the third site by the computer.

15. (previously presented) A method according to claim 14, wherein, in a case where a failure occurs in the first site, the log stored in the second site and the log stored in the third site are made to coincide with each other, and any processings, which have been performed by the computer of the first site, are continued by a computer included in the second site.

16. (previously presented) A method according to claim 14, wherein in a case where a failure occurs in the first site, the log stored in the second site and the log stored in the third site are made to coincide with each other, and any processings, which have been performed by the computer of the first site, are continued by a computer included in the third site.

17. (currently amended)A computer system according to claim 13, wherein said first computer comprises:

a database program which controls the database;

an application program which requests query processings of the database by use of the database program; and

a database log transmission program which sends the log created by processings on the database to the second computer,

wherein said first computer is coupled to said storage subsystem by a data line.

18. (previously presented) The method according to claim 14, wherein said computer included in the first site comprises:

a database program which controls the database;

an application program which requests query processings of the database by use of the database program; and

a database log transmission program which sends the log to a computer included in the third site,

wherein said computer of the first site is coupled to said storage subsystem of the first site by a data line.